



Materialographic sample preparation makes strict demands for high reproducibility as results have to be comparable from one preparation process to the next.

Struers Diamond Products are the fastest way to obtain a perfect surface every time. They efficiently remove scratches caused by grinding without causing excessive deformation to or smearing of the microstructure.

The careful selection of diamond type, grading of grain size and formulation of the individual products means you will have superior, satisfactory results which again means improved cost and time efficiency.

## **Diamond**

**- the hardest known abrasive**

**Struers offers DP Diamond Products for all purposes within materialographic grinding and polishing.**

**The broad product programme allows for any type of preparation, from manual to fully automatic.**

## Tailored to Superior Results

Struers DP Diamond Products are accurately tailored to materialographic requirements. Struers' superior quality pervades all parts of the preparation process.

- The tightest grading specifications in the industry - a critical consideration in a process where microns make the difference between preparation success and failure.
- A wide variety of diamond suspensions, sprays, sticks and pastes - means always having the best possible products for your specific application.
- A high concentration of diamonds - easy adjustment of the diamond-to-lubricant balance to specific needs.
- Polycrystalline diamonds for the highest quality materialographic preparation - provide faster removal rates, and a finer finished surface due to the polycrystalline properties.
- Non-settling stable suspensions with thixotropic characteristics – are ideally suited for automated systems.
- All suspensions are non-toxic, non-combustible and water-based (except DP-Suspension A which is alcohol-based) - for protection of health and environment.



## Automatic Dosing for Optimal Reproducibility

Materialographic sample preparation requires exact dosing of abrasive and lubricant at all times to obtain reproducible results. The amount of applied abrasive depends on the grinding/polishing surface and the hardness of the specimens.

Struers' suspensions can all be used for automatic dosing, ensuring an optimal reproducibility while saving your time, as you need not continually monitor the dosing. The graph below shows the variations, which may occur between dosing with automatic equipment and manual dosing.

## Diamond Products for Every Need

Struers DP Diamond Products can be divided into polycrystalline (P-type) for the highest quality materialographic preparation and monocrystalline (M-type). Polycrystalline diamonds consist of numerous minute crystallites which provide vast numbers of small cutting edges. In the metallographic preparation process these edges result in a high material removal while producing only a shallow

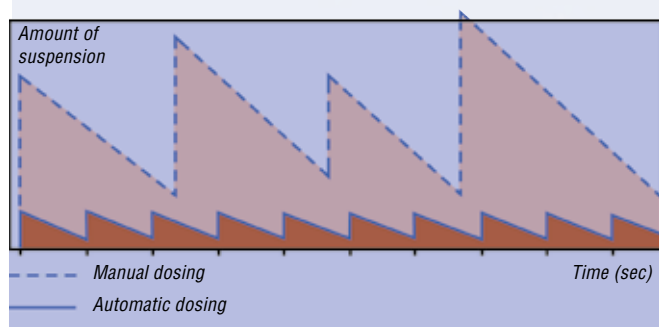
scratch depth. Monocrystalline diamonds are more blocky in shape and provide only a few cutting edges. These diamonds give a high material removal with a more variable scratch pattern.

For the highest requirements the P-type diamonds are chosen, whereas the M-type is best suited for all purpose grinding and polishing for economical, routine preparation. All variations listed below (except DP-Stick) come in both P-types and M-types.

Struers offers a complete range of diamond products for fine grinding and polishing of materialographic specimens, including suspensions, sprays, sticks and pastes. Diamond grain sizes and shapes are controlled in very tight tolerances to ensure optimal polishing results at the lowest cost. The variety of Struers' diamond products allows you to carefully adjust the quantity of diamond you add in relation to lubricant. This means adjusted and controlled use of abrasive while making sure your results meet all demands. Struers DP Diamond Products are available in grain sizes from 35  $\mu\text{m}$  to 0.1  $\mu\text{m}$ .

## Lubricants

All Struers DP Diamond Products must be used in combination with DP-Lubricants. Lubricants ensure correct cooling and smearing of the material surface. Struers offers a wide range of DP-Lubricants for every purpose. See the full programme in the specifications on page 3 and 4.



Graph showing the variations, which may occur between dosing with automatic equipment and manual dosing.

## DP-Suspension A - for Water Sensitive Materials

DP-Suspension A is a high quality product for the preparation of materials whose reaction to water may distort the structural analysis of the material. This product is a high quality, alcohol-based suspension. With a water content of less than 0.5% w/w even very hygroscopic materials can be prepared without any attack of sensitive phases. Water sensitive phases appear in many different kinds of materials. Examples of these phases are magnesias, lime and dicalcium silicate.

DP-Suspension A is recommended for all kinds of materials, from soft and ductile to hard and brittle.

DP-Suspension A is available in grain sizes 15, 9, 6, 3, 1 and ¼ µm.

### Easy Cleaning

Working with water sensitive materials often required the use of oil-based products which often resulted in greasy samples and instruments.

DP-Suspension A overcomes this problem, making cleaning much easier.

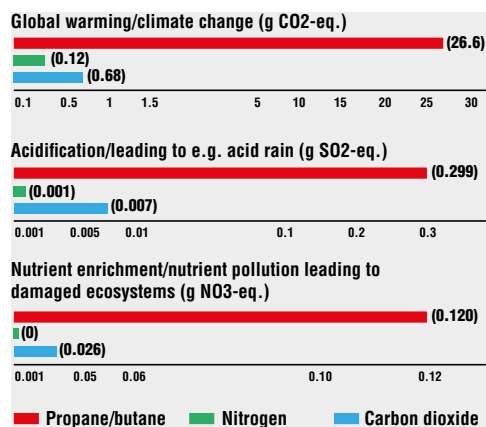
### Lubricants

When working with water sensitive materials not only the correct choice of suspension, but also the choice of lubricant is very important. Struers has therefore developed two lubricants to be used with DP-Suspension A: DP-Lubricant Brown and DP-Lubricant Yellow. DP-Lubricant Brown can be used for all grain sizes, it has a high cooling effect and is particularly suitable for high material removal. DP-Lubricant Yellow has a high smearing ability and is advised for polishing steps on soft materials and smaller grain sizes, typically 3, 1 and ¼ µm.

## Constant Improvement

Struers Diamond Products are subject to the most stringent control possible, both during development and in production. It is the effectiveness of the control that distinguishes Struers Diamond Products from all others.

Struers is constantly striving to develop new, environmentally-friendly and improved consumables that lead to superior preparation quality, faster results and better cost efficiency. Make your lab more efficient, more productive and more successful with performance products from Struers.



### The environmental impacts of traditional propellants compared to Nitrogen used in the DP-Sprays

Struers DP-Spray has Nitrogen as a propellant. Using Nitrogen as a propellant significantly reduces the environmental impact.

Graph shows the environmental impact for different propellants.

## Specifications

**DP-Suspension P:** High performance diamond product containing exclusively polycrystalline diamonds. Stable suspension, designed for automatic dosing equipment. Water-based.

Contents	Grain size	Cat.no
125 ml	6 µm	40600227
	3 µm	40600228
	1 µm	40600229
500 ml	15 µm	40600358
	9 µm	40600359
	6 µm	40600360
	3 µm	40600361
	1 µm	40600362
	¼ µm	40600363
	0.1 µm	40600364
2.5 l	15 µm	40600247
	9 µm	40600248
	6 µm	40600249
	3 µm	40600250
	1 µm	40600251
	¼ µm	40600297
5 l	9 µm	40600339
	6 µm	40600340
	3 µm	40600341
	1 µm	40600342

**DP-Suspension M:** High performance diamond product containing monocrystalline diamonds. Stable suspension, designed for automatic dosing equipment. Water-based.

Contents	Grain size	Cat.no
500 ml	15 µm	40600353
	9 µm	40600354
	6 µm	40600355
	3 µm	40600356
	1 µm	40600357
2.5 l	15 µm	40600252
	9 µm	40600253
	6 µm	40600254
	3 µm	40600255
	1 µm	40600256
5 l	9 µm	40600343
	6 µm	40600344
	3 µm	40600345
	1 µm	40600346

**DP-Suspension A:** Alcohol-based high performance diamond product. Water content < 0.5 % w/w. For highest efficiency in metallographic fine grinding and polishing of water sensitive materials. Stable suspension, designed for automatic dosing equipment.

Contents	Grain size	Cat.no
500 ml	15 µm	40600347
	9 µm	40600348
	6 µm	40600349
	3 µm	40600350
	1 µm	40600351
	¼ µm	40600352

**DP-Spray P:** High performance diamond product containing exclusively polycrystalline diamonds. In spray can with Nitrogen as a propellant.

Contents	Grain size	Cat.no
150 ml	35 µm	40600150
	15 µm	40600149
	9 µm	40600148
	6 µm	40600147
	3 µm	40600146
	1 µm	40600145
	¼ µm	40600144

**DP-Spray M:** High performance diamond product containing monocrystalline diamonds. In spray can with Nitrogen as a propellant.

Contents	Grain size	Cat.no
150 ml	15 µm	40600155
	9 µm	40600154
	6 µm	40600153
	3 µm	40600152
	1 µm	40600151



**DP-Stick P:** High performance diamond product containing exclusively polycrystalline diamonds. Stick format applicator.

Contents	Grain size	Cat.no
24 g	15 µm	40600308
	9 µm	40600309
	6 µm	40600310
	3 µm	40600311
	1 µm	40600312
	¼ µm	40600313

**DP-Paste P:** High performance diamond product containing exclusively polycrystalline diamonds. In syringe.

Contents	Grain size	Cat.no
10 g	15 µm	40600023
	9 µm	40600024
	6 µm	40600025
	3 µm	40600026
	1 µm	40600027
	¼ µm	40600028

**DP-Paste M:** High performance diamond product containing monocrystalline diamonds. In syringe.

Contents	Grain size	Cat.no
10 g	15 µm	40600015
	9 µm	40600016
	6 µm	40600017
	3 µm	40600018
	1 µm	40600019
	¼ µm	40600020

#### DP-Lubricant

**Green:** Water-based; for fine grinding and diamond polishing of most materials.

Contents	Cat.no
1 l	40700023
5 l	40700024
10 l	40700055

**Blue:** Alcohol-based; for fine grinding and diamond polishing of most materials. Contains ethanediol.

1 l	40700005
5 l	40700006
10 l	40700056

**Purple:** Alcohol-based; for fine grinding and diamond polishing of most materials. Contains propylene glycol.

1 l	40700059
5 l	40700060
10 l	40700061

**Red:** Water and oil-based; final polishing of softer materials.

1 l	40700025
5 l	40700057
10 l	40700058

**Brown:** Alcohol-based; for fine grinding of all materials and polishing harder materials (use with DP-Suspension A).

1 l	40700028
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**Yellow:** Alcohol-based; final polishing of softer materials (use with DP-Suspension A).

1 l	40700030
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*Struers' products are subject to constant product development. Therefore, we reserve the right to introduce changes in our products without notice.*

#### AUSTRALIAN & NEW ZEALAND

**Struers Australia**  
27 Mayneview Street  
Milton QLD 4064  
Australia  
Phone +61 7 3512 9600  
Fax +61 7 3369 8200  
info.au@struers.dk

**BELGIUM (Wallonie)**  
**Struers S.A.S.**  
370, rue du Marché Rollay  
F-94507 Champigny  
sur Marne Cedex  
Téléphone +33 1 5509 1430  
Télécopie +33 1 5509 1449  
struers@struers.fr

**BELGIUM (Flanders)**  
**Struers GmbH Nederland**  
Zomerdijk 34 A  
3143 CT Maassluis  
Telefoon +31 (10) 599 7209  
Fax +31 (10) 5997201  
netherlands@struers.de

**CANADA**  
**Struers Ltd.**  
7275 West Credit Avenue  
Mississauga, Ontario L5N 5M9  
Phone +1 905-814-8855  
Fax +1 905-814-1440  
info@struers.com

**CHINA**  
**Struers Ltd.**  
No. 1696 Zhang Heng Road  
Zhang Jiang Hi-Tech Park  
Shanghai 201203, P.R. China  
Phone +86 (21) 6035 3900  
Fax +86 (21) 6035 3999  
struers@struers.cn

**CZECH REPUBLIC & SLOVAKIA**  
**Struers GmbH Organiza ní složka**  
v deckotechnický park  
P ílepská 1920,  
CZ-252 63 Roztoky u Prahy  
Phone +420 233 312 625  
Fax +420 233 312 640  
czechrepublic@struers.de  
slovakia@struers.de

**GERMANY**  
**Struers GmbH**  
Carl-Friedrich-Benz-Straße 5  
D- 47877 Willich  
Telefon +49 (0) 2154 486-0  
Fax +49 (0) 2154 486-222  
verkauf@struers.de

**FRANCE**  
**Struers S.A.S.**  
370, rue du Marché Rollay  
F-94507 Champigny  
sur Marne Cedex  
Téléphone +33 1 5509 1430  
Télécopie +33 1 5509 1449  
struers@struers.fr

**HUNGARY**  
**Struers GmbH**  
Magyarország Fióktelep  
Tatai út 53  
2821 Gyermely  
Phone +36 (34) 880546  
Fax +36 (34) 880547  
hungary@struers.de

**IRELAND**  
**Struers Ltd.**  
Unit 11 Evolution@ AMP  
Whittle Way, Catcliffe  
Rotherham S60 5BL  
Tel. +44 0845 604 6664  
Fax +44 0845 604 6651  
info@struers.co.uk

**ITALY**  
**Struers Italia**  
Via Monte Grappa 80/4  
20020 Arese (MI)  
Tel. +39-02/38236281  
Fax +39-02/38236274  
struers.it@struers.it

**JAPAN**  
**Marumoto Struers K.K.**  
Takanawa Muse Bldg. 1F  
3-14-13 Higashi-Gotanda,  
Shinagawa  
Tokyo  
141-0022 Japan  
Phone +81 3 5488 6207  
Fax +81 3 5488 6237  
struers@struers.co.jp  
16.04.2018 / 62130000

#### Struers ApS

Pederstrupvej 84  
DK-2750 Ballerup, Denmark  
Phone +45 44 600 800  
Fax +45 44 600 801  
struers@struers.dk  
www.struers.com

**NETHERLANDS**  
**Struers GmbH Nederland**  
Zomerdijk 34 A  
3143 CT Maassluis  
Telefoon +31 (10) 599 7209  
Fax +31 (10) 5997201  
netherlands@struers.de

**NORWAY**  
**Struers ApS, Norge**  
Sjøslogenveien 44C  
1407 Vinterbro  
Telefon +47 970 94 285  
info@struers.no

**AUSTRIA**  
**Struers GmbH**  
Zweigniederlassung  
Österreich  
Betriebsgebiet Puch Nord 8  
5412 Puch  
Telefon +43 6245 70567  
Fax +43 6245 70567-78  
austria@struers.de

**POLAND**  
**Struers Sp. z o.o.**  
Oddział w Polsce  
ul. Jasnogórska 44  
31-358 Kraków  
Phone +48 12 661 20 60  
Fax +48 12 626 01 46  
poland@struers.de

**ROMANIA**  
**Struers GmbH, Sucursala Bucuresti**  
Str. Preciziei nr. 6R  
062203 sector 6, Bucuresti  
Phone +40 (31) 101 9548  
Fax +40 (31) 101 9549  
romania@struers.de

**SWITZERLAND**  
**Struers GmbH**  
Zweigniederlassung Schweiz  
Weissenbrunnstraße 41  
CH-8903 Birnmensdorf  
Telefon +41 44 777 63 07  
Fax +41 44 777 63 09  
switzerland@struers.de

**SINGAPORE**  
**Struers Singapore**  
627A Aljunied Road,  
#07-08 BizTech Centre  
Singapore 389842  
Phone +65 6299 2268  
Fax +65 6299 2661  
struers.sg@struers.dk

**SPAIN**  
**Struers España**  
Camino Cerro de los  
Gamos 1  
Building 1 - Pozuelo de  
Alarcón  
CP 28224 Madrid  
Teléfono +34 917 901 204  
Fax +34 917 901 112  
struers.es@struers.es

**FINLAND**  
**Struers ApS, Suomi**  
Hietalahdenranta 13  
00180 Helsinki  
Puhelin +358 (0)207 919  
430  
Faksi +358 (0)207 919 431  
finland@struers.fi

**SWEDEN**  
**Struers Sverige**  
Box 20038  
161 02 Bromma  
Telefon +46 (0)8 447 53 90  
Telefax +46 (0)8 447 53 99  
info@struers.se

**UNITED KINGDOM**  
**Struers Ltd.**  
Unit 11 Evolution @ AMP  
Whittle Way, Catcliffe  
Rotherham S60 5BL  
Tel. +44 0845 604 6664  
Fax +44 0845 604 6651  
info@struers.co.uk

**USA**  
**Struers Inc.**  
24766 Detroit Road  
Westlake, OH 44145-1598  
Phone +1 440 871 0071  
Fax +1 440 871 8188  
info@struers.com